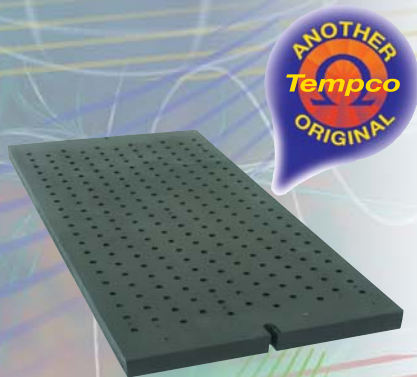


# Cast-In Heaters for Semiconductor Manufacturing

## Cast-In Heaters for the Semiconductor Processing Industry

Tempco has been at the forefront of the industry, addressing the challenges of stringent operating parameters and high quality requirements faced by original equipment manufacturers specializing in the semiconductor, wave solder and reflow surface mount processes.

By employing state-of-the-art technologies and by utilizing our acquired knowledge as a company, we have met the challenges by offering and delivering excellence in the design, engineering and manufacturing of a complete selection of innovative, reliable and high quality cast-in aluminum thermal component products.



### Cast-In Thermal Platens for Wave Solder & Reflow Surface Mount Equipment

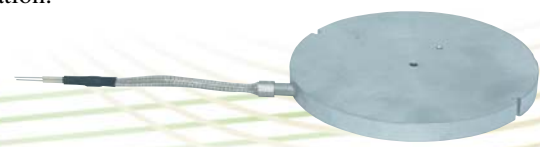
Tempco's highly engineered platens are capable of maintaining a temperature gradient of 5°F (2.77°C) across the entire working surface of the heater platen at the process operating temperature. The innovative design of this cast-in thermal platen incorporates the dual functions of being both a radiant and a convection heat source.

### Cast-In Heaters for Wafer Processing

Tempco offers a complete selection of highly customized semi-conductor process heaters which include *Pedestal Heaters, Pedestal Heaters with Integrated Cooling Capabilities, Bake Platen Heaters, High-Temperature Platen Heaters with Interference Press Fit Tubular or Cable Heating Elements*. For this type of platen heater construction the available base alloys are *Stainless Steel, Nickel, Inconel®, Copper, Bronze, Brass, and Aluminum*.

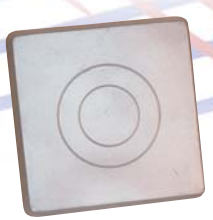
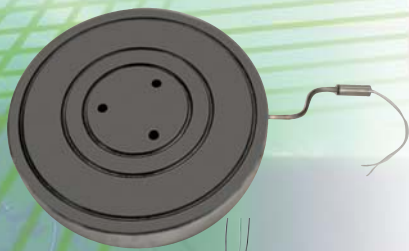
Our metallurgical knowledge and foundry expertise are the catalyst for producing cast-in heaters with the precise heat profiles and temperature gradient required for the process. Tempco's state-of-the-art CNC machining capabilities will insure that the working surface requirements of the part are precisely machined to customer requirements including extremely flat surfaces of 0.0005 in (0.0127 mm) for optimizing the performance of the application.

In order to satisfy the stringent requirements of the industry, these products are manufactured under rigid quality control standards. Specific attention is directed to the heating element design and the casting processes.



### Design Features & Options

- \* **Aluminum Alloy**      **Maximum Operating Temperature**
- 319                            960° F (516° C)
- 356                            752° F (400° C)
- Pure (99.7%)                842° F (450° C)
- \*Pure Aluminum is also used to reduce the risk of contamination during the process.
- \* **Interference Press Fit Construction – maximum operating temperature depends on base alloy used**
- \* **Surface Finish – Hard-Coat Anodized**
- \* **Built-in Temperature Sensors**
- \* **Selection of heating element and cooling tube terminations**



**Note:** Cast-In heaters for semiconductor processing are made to customer specifications. For technical assistance, engineering data and available options

please refer to pages 3-6 & 3-7. When ordering, please provide detailed design drawings including dimensions, critical tolerances, watts, volts, and any other features or special requirements.